CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 95-008

NPDES NO. CA0006157

WASTE DISCHARGE REQUIREMENTS FOR:

ZENECA AGRICULTURAL PRODUCTS,
RICHMOND PLANT
RICHMOND, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay, (hereinafter called the Board) finds that:

1. Zeneca Agricultural Products, formerly ICI Americas and hereinafter referred to as the Discharger, submitted an NPDES Permit application (Report of Waste Discharge) dated September 22, 1994 for reissuance of NPDES Permit No. CA0006157.

2. The wastewater discharge from this facility is currently regulated by Waste Discharge Requirements, Order No. 90-059, adopted by the Board on May 18, 1990. This Order expires on May 18, 1995.

3. The Discharger manufactures VAPAM (a soil fumigant), and formulates, packages, or bulk loads several other agricultural pesticides (mainly thiocarbamates). A research laboratory, greenhouse, and pilot plant are also located on-site.

4. The U.S. Environmental Protection Agency (USEPA) and the Board have classified this facility as a major discharger. A review of this classification is pending.

5. The following discharges, as described below, were included in the submitted Report of Waste Discharge and recent self-monitoring reports:

   Waste 001 consists of cooling water and boiler blowdown, steam condensate, laboratory drain and washdown water, groundwater, and stormwater runoff. Wastewater generated from the organic processing areas is treated with granular activated carbon (GAC), and combined with the remaining site wastewater, including runoff. This mixture flows to two on-site evaporation lagoons arranged in series. An outfall from the second lagoon intermittently discharges to an unnamed tidal basin, tributary to Carlson Creek and San Francisco Bay, near the foot of South 51st Street in the City of Richmond (Lat. 37°54'30", Long. 122°19'40").

   In order to avoid releases to the tidal basin, the Discharger pumps Waste 001 to the sanitary sewer. The average flow ranges between 0.05 to 0.10 million gallons per day (MGD), but may increase to about 1.0 MGD during storm events. Discharges of Waste

001 to the basin have been very infrequent, and last occurred on April 20, 1989.

Waste 002 consists of untreated stormwater runoff from building roofs, parking lots, and streets, which may be contaminated with heavy metals and agricultural products. The average flow is about 17.1 million gallons per year; it ranges from a few gallons per minute during the dry season to about 4.7 MGD during storm events. Waste 002 discharges to the unnamed tidal basin, tributary to Carlson Creek and San Francisco Bay, near the foot of South 49th Street in the City of Richmond (Lat. 37°54'30", Long. 122°19'40").

6. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan identifies beneficial uses and water quality objectives for surface waters in the region, as well as effluent limitations and discharge prohibitions intended to protect those uses. This Order implements the plans, policies, and provisions of the Board's Basin Plan.

7. The beneficial uses of San Francisco Bay and/or Carlson Creek include:

   a. Water Contact recreation
   b. Non-contact water recreation
   c. Navigation
   d. Ocean commercial and sport fishing
   e. Wildlife habitat
   f. Estuarine habitat
   g. Fish spawning and migration
   h. Industrial service and process supply
   i. Preservation of rare and endangered species
   j. Shellfish harvesting

8. The Basin Plan includes the following prohibition:

   "...It shall be prohibited to discharge:

   Any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any nontidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof."

9. The Basin Plan provides that exceptions to this discharge prohibition will be considered for discharges where:

   a. an inordinate burden would be placed on the discharger relative to beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means, such as an alternative discharge site, a higher level of treatment,

and/or improved treatment reliability; or

b. a discharge is approved as part of a reclamation project; or

c. it can be demonstrated that net environmental benefits will be derived as a result of the discharge.

10. In order to satisfy the Basin Plan prohibition, the Discharger elected to route all of its dry-weather flows from Waste 001 via a sewer connection to the City of Richmond's sanitary sewer. Limited wet-weather treatment capacity exists at the sanitary sewer due to rainfall induced infiltration into their treatment system. This Order allows limited quantities of treated wastewater to discharge to the unnamed tributary in exception to the Basin Plan Prohibition. These discharges would occur only during heavy rainfall events, and after both the sanitary sewer's treatment capacity and the Discharger's on-site storage capacity have been exhausted.

11. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21110) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

12. Effluent limitations and toxic effluent standards established pursuant to Sections 208(b), 301, 304, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.

13. Effluent limitation guidelines requiring the application of best available technology economically achievable (BAT) have been promulgated by the U.S. Environmental Protection Agency for the Pesticide Chemicals Category 40 CFR Part 455 on September 28, 1993. Effluent limitations of this Order are based on these guidelines, the Basin Plan, State plans and policies, current plant performance, and best professional judgement. The limitations are considered to be those attainable by BAT in the judgement of the Board, the national toxics rule (40 CFR 131.36), and the narrative water quality objectives contained in the Basin Plan.

14. Under 40 CFR 122.44, "Establishing Limitations, Standards, and Other Permit Conditions," NPDES permits should also include toxic pollutant limitations if the Discharger uses or manufactures a toxic pollutant as an intermediate or final product or byproduct. This permit may be modified prior to the expiration date, pursuant to 40 CFR 122.62 and 124.5, to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as a part of this Order.

15. The Board notified the Discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge and provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

16. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. The discharge of Waste 001 containing constituents in excess of the following limits is prohibited:

Constituent	Units	Monthly Average	Daily Maximum
COD	mg/l		48
Total Suspended Solids	mg/l	20	30
Settleable Matter	ml/l-hr	0.1	0.2
Devrinol	µg/l		50
Total Thiocarbamates[1]	µg/l	25	60
Toluene	µg/l	14	33
VAPAM	kg/day	0.11	0.34
	µg/l	48	215

[1] The following pesticides shall be included in the Total Thiocarbamate analysis: Eptam, Sutan, Vernam, Tillam, Ordram and Ro-Neet.

2. The discharge of Waste 001 containing constituents in excess of the following limits is prohibited:

Constituent	Units	Daily Maximum
Arsenic	µg/l	200
Cadmium	µg/l	30
Chromium VI[1]	µg/l	110
Copper	µg/l	37
Cyanide[2]	µg/l	25
Lead	µg/l	53
Mercury	µg/l	1
Nickel	µg/l	65
Silver	µg/l	23
Zinc	µg/l	580

Constituent	Units	Daily Maximum
Phenols	µg/l	500
PAHs	µg/l	150

[1] The Discharger may demonstrate compliance with this limitation by measurement of Total Chromium.

[2] The Discharger may demonstrate compliance with this limitation by measurement of weak acid dissociable cyanide.

3. Waste 001 shall not have a pH less than 6.5 nor greater than 8.5.

4. Waste 001 shall meet the following acute toxicity limitation:

The survival of test fishes in a 96-hour static renewal bioassay of the effluent as discharged shall not be less than 70 percent survival. Static bioassays may be used to satisfy this limitation upon approval by the Executive Officer.

5. The discharge of Waste 002 containing constituents in excess of the following limits is prohibited:

Constituent	Units	Daily Maximum
Copper	µg/l	200
Lead	µg/l	53
Mercury	µg/l	1
Nickel	µg/l	65
Zinc	µg/l	580
VAPAM	µg/l	48
Eptam	µg/l	50
Sutan	µg/l	50
Vernam	µg/l	50
Tillam	µg/l	50
Ordram	µg/l	50
Ro-Neet	µg/l	50
Devrinol	µg/l	50

6. Waste 002 shall not have a pH less than 6.5 nor greater than 8.5.

B. Receiving Water Limitations

1. The discharge of wastes shall not cause the following conditions to exist in waters of the State at any place at levels that cause nuisance or adversely affect beneficial uses:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of wastes shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

   a. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

   b. Dissolved sulfide: 0.1 mg/l maximum.

   c. pH: Variation from natural ambient pH by more than 0.5 pH units.

   d. Un-ionized ammnia (as N): 0.025 mg/l Annual Median;
   0.16 mg/l Maximum at any time.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution

Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. Discharge Prohibitions

1. The discharge of process wastewater is prohibited.

2. The discharge of Waste 001 is prohibited unless the sanitary sewer's treatment capacity and the Discharger's on-site storage capacity have been exhausted. Any discharge of Waste 001 shall immediately be reported to the Executive Officer.

3. The discharge of all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, is prohibited.

D. Provisions

1. The Discharger shall comply with the limitations, prohibitions, and other provisions of this Order immediately upon its adoption by the Board.

2. The Discharger shall maintain at least a two foot freeboard in its treatment ponds, excluding the two on-site lagoons. Sufficient freeboard shall be maintained in the two lagoons to minimize wet-weather season discharges of Waste 001.

3. The Discharger shall protect its treatment ponds from washout, erosion or flooding that may result from a 100 year storm event. A pond management plan acceptable to the Board shall be submitted no later than October 1 of each year.

4. The Discharger shall submit a Stormwater Pollution Prevention Plan to the satisfaction of the Executive Officer pursuant to Section A of the General Industrial Stormwater Permit by July 1, 1995.

5. The Discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. Discharging pollutants in violation of this Order where the Discharger failed to develop and/or implement a current contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

6. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from the date of hearing provided the Regional Administrator, USEPA, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

7. The Discharger shall comply with the attached self-monitoring program as adopted by the Board, and as may be amended by the Board pursuant to USEPA regulations 40 CFR 122.62, 122.63, and 124.5.

8. All applications, reports, or information submitted to the Board shall be signed and certified pursuant to USEPA regulations 40 CFR 122.41(k).

9. Pursuant to USEPA regulations 40 CFR 122.44, 122.62, and 124.5, this permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as a part of this Order.

10. Pursuant to USEPA regulations 40 CFR 122.42(a), the Discharger must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of a toxic pollutant not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits included in 40 CFR 122.42(a).

11. This Order includes all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated August 1993.

12. Order No. 90-059 is hereby rescinded.

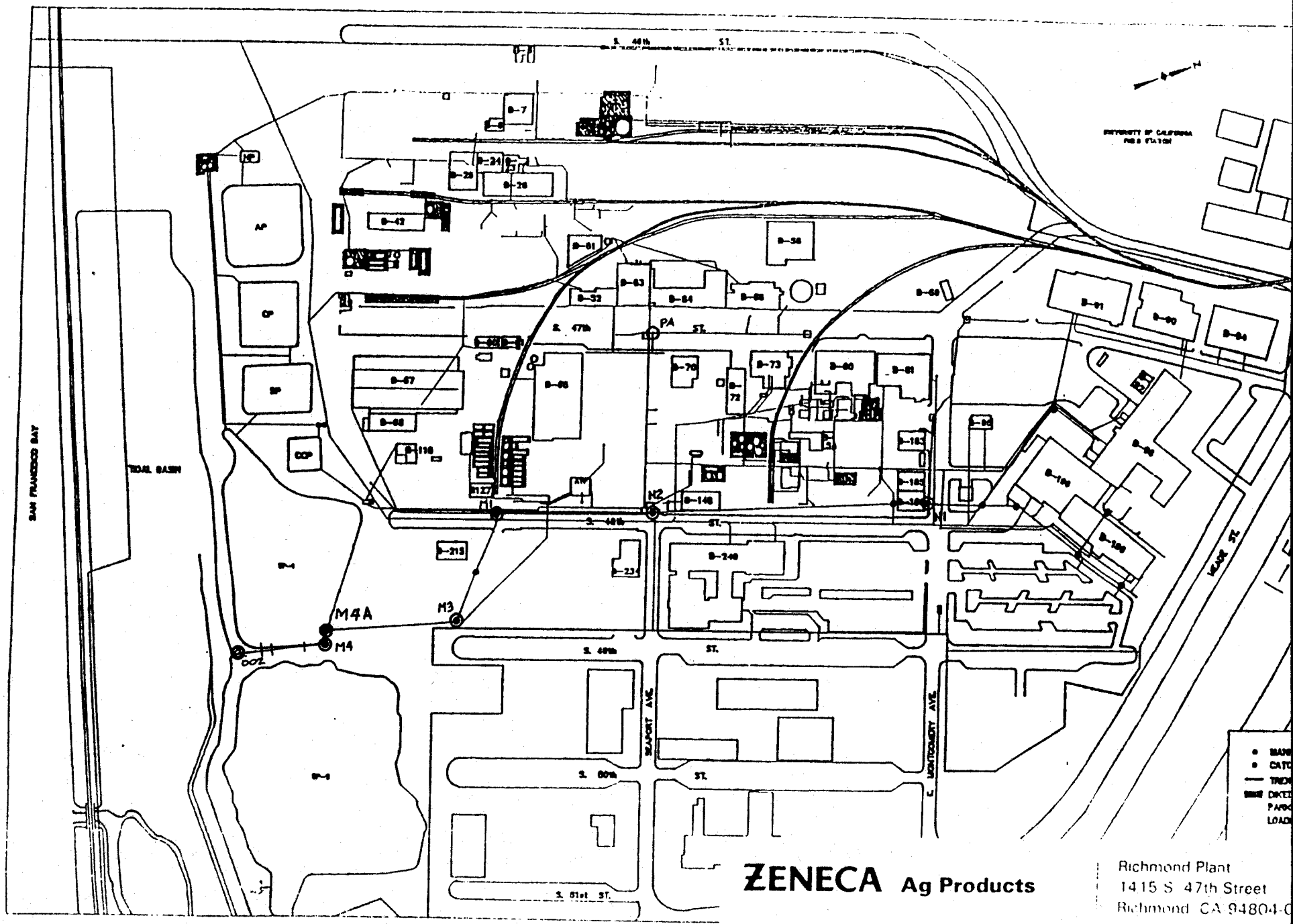
13. This Order expires on January 18, 2000. The Discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on January 18, 1995.

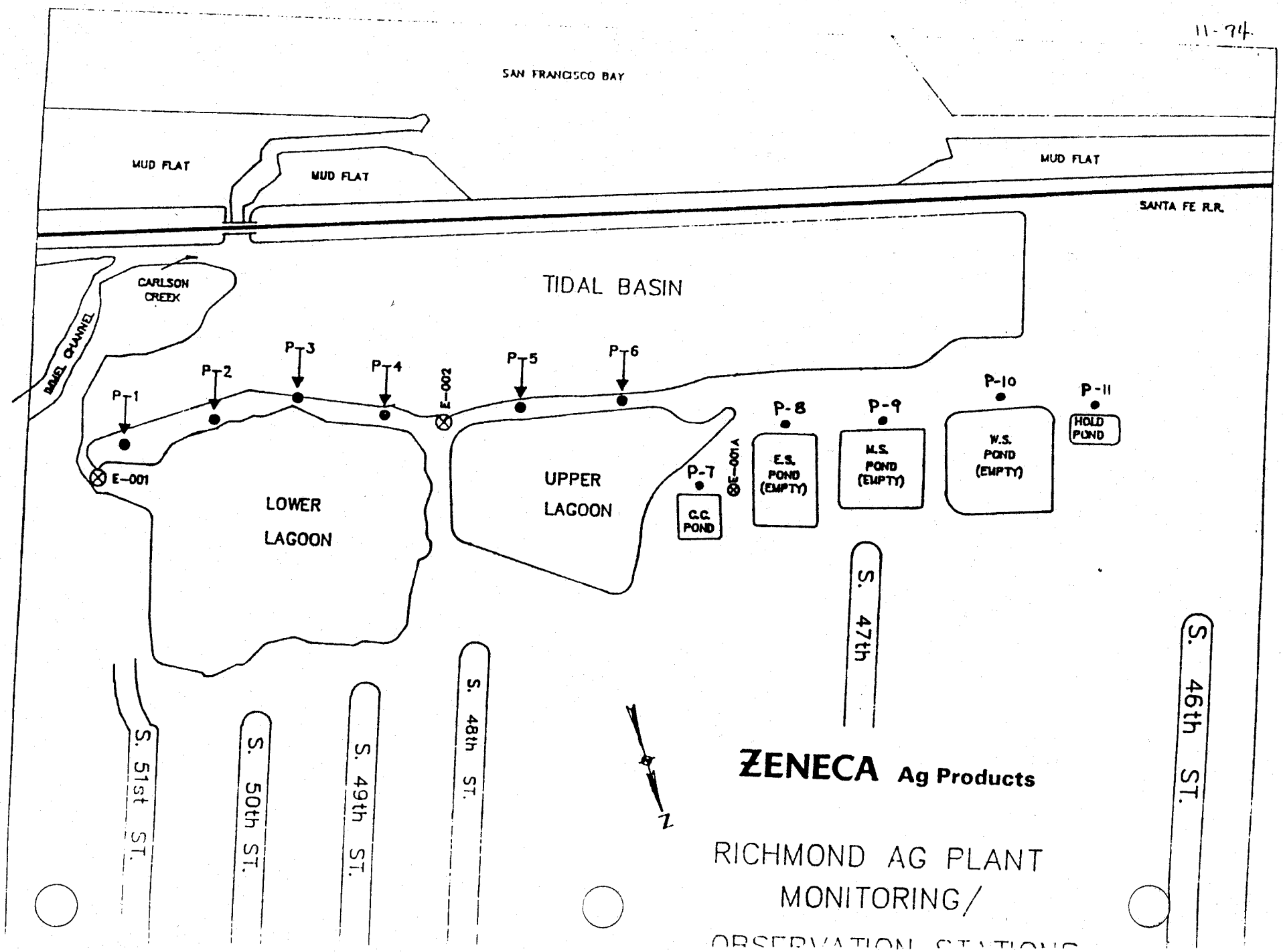
STEVEN R. RITCHIE
Executive Officer

Attachments:

Facility Map
Observation Stations Sketch
Treatment Plant Schematic
Standard Provisions & Reporting Requirements, August 1993
Self-Monitoring Program
Resolution 74-10
General Industrial Stormwater Permit - Section A


S. 46th ST.
SAN FRANCISCO BAY
TIDAL BASIN
S. 47th ST.
S. 48th ST.
S. 49th ST.
S. 51st ST.
SEAPORT AVE.
C. MONTGOMERY AVE.
MARE ST.
M4A
M3
M4
PA
N2
B-7
B-24
B-26
B-42
B-56
B-57
B-66
B-67
B-68
B-72
B-73
B-76
B-80
B-81
B-84
B-90
B-91
B-94
B-96
B-116
B-127
B-148
B-149
B-150
B-165
B-166
B-169
B-213
B-231
B-240
AP
CP
SP
COP
SP-1
SP-4
ZENECA Ag Products
Richmond Plant
1415 S 47th Street
Richmond CA 94804-0

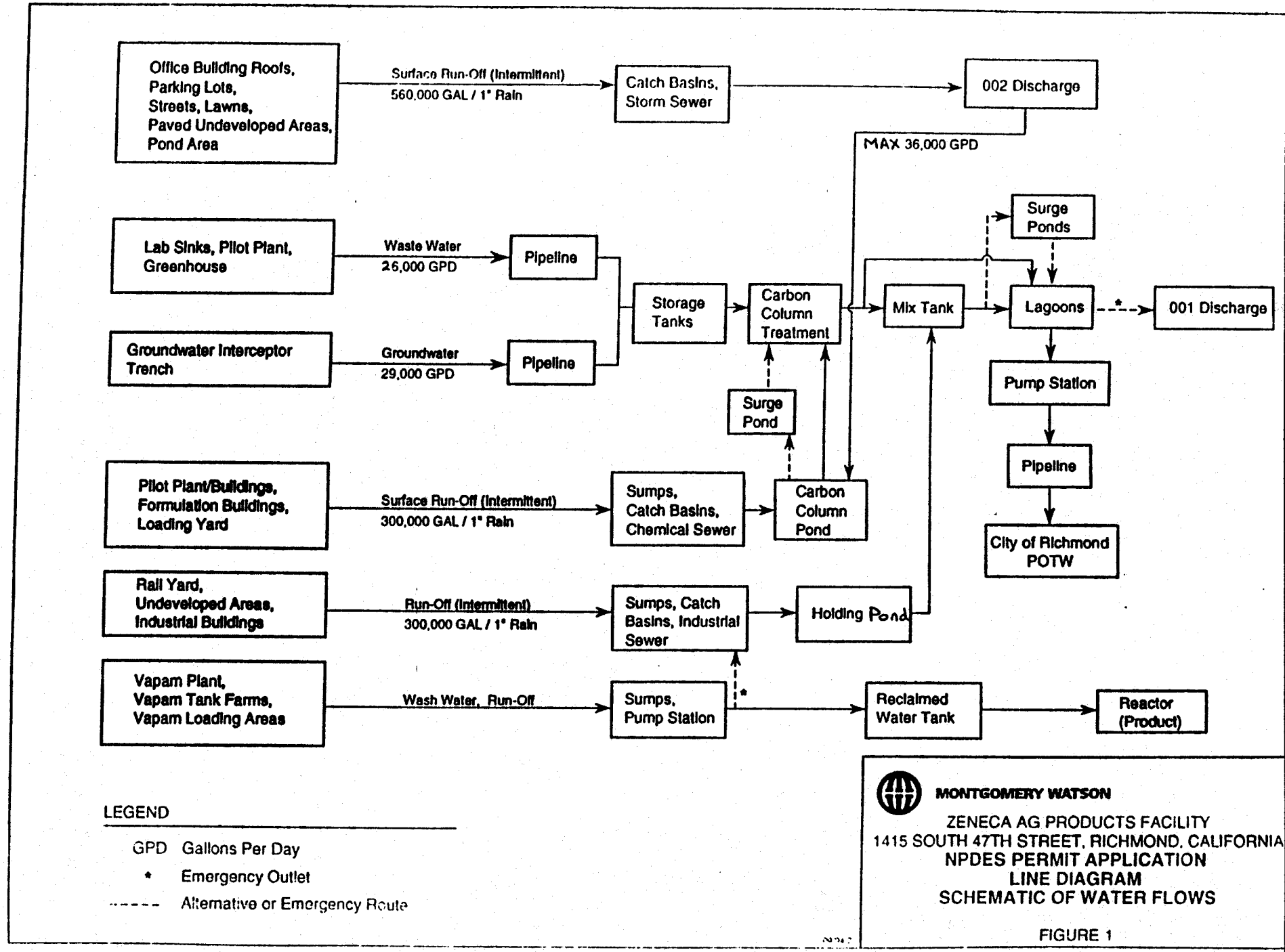
11-94



ZENECA Ag Products

RICHMOND AG PLANT MONITORING/

OBSERVATION STATIONS


Office Building Roofs, Parking Lots, Streets, Lawns, Paved Undeveloped Areas, Pond Area
Surface Run-Off (Intermittent)
560,000 GAL / 1" Rain
Catch Basins, Storm Sewer
002 Discharge
MAX 36,000 GPD
Lab Sinks, Pilot Plant, Greenhouse
Waste Water
26,000 GPD
Pipeline
Groundwater Interceptor Trench
Groundwater
29,000 GPD
Pipeline
Storage Tanks
Carbon Column Treatment
Surge Ponds
Mix Tank
Lagoons
001 Discharge
Pump Station
Pipeline
City of Richmond POTW
Surge Pond
Carbon Column Pond
Pilot Plant/Buildings, Formulation Buildings, Loading Yard
Surface Run-Off (Intermittent)
300,000 GAL / 1" Rain
Sumps, Catch Basins, Chemical Sewer
Rail Yard, Undeveloped Areas, Industrial Buildings
Run-Off (Intermittent)
300,000 GAL / 1" Rain
Sumps, Catch Basins, Industrial Sewer
Holding Pond
Vapam Plant, Vapam Tank Farms, Vapam Loading Areas
Wash Water, Run-Off
Sumps, Pump Station
Reclaimed Water Tank
Reactor (Product)
LEGEND
GPD Gallons Per Day
* Emergency Outlet
----- Alternative or Emergency Route
MONTGOMERY WATSON
ZENECA AG PRODUCTS FACILITY
1415 SOUTH 47TH STREET, RICHMOND, CALIFORNIA
NPDES PERMIT APPLICATION
LINE DIAGRAM
SCHEMATIC OF WATER FLOWS
FIGURE 1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

ZENECA AGRICULTURAL PRODUCTS
CONTRA COSTA COUNTY

NPDES NO. CA0006157

ORDER NO. 95-008

CONSISTS OF

PART A (dated August 1993)

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. EFFLUENT

Station	Description
E-001A	At a point immediately after treatment by the activated carbon columns.
E-001	At any point in the treated Waste 001 stream between the point of discharge and the point at which all waste tributary to the outfall is present.
E-002	At any point in each storm runoff waste stream into the tidal basin tributary to San Francisco Bay at which all waste tributary to that stream is present.

B. RECEIVING WATERS

Station	Description
C-R	At a point in Carslon Creek, downstream of Stations E-001 and E-002, at which all waste tributary to the Creek is present.

C. LAND OBSERVATIONS

Station	Description
P-1 through P-'n'	Located along the periphery of the waste treatment or disposal facilities, including the two on-site lagoons, as identified in the attached observation stations sketch. A copy of this sketch shall accompany each monitoring report.

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given in Table 1 (attached).

B. Sample collection, storage, and analyses shall be performed according to requirements in the latest 40 CFR 136, in the Permit, or as specified by the Executive Officer.

C. Monitoring reports are to be submitted on the 15th day of the month following the end of the quarter (i.e., April 15, July 15, October 15, and January 15).

III. MISCELLANEOUS REPORTING

A. The Discharger shall record the rainfall on each day of the month.

B. The Discharger shall retain and submit (when required by the Executive Officer) the following information concerning the monitoring program for organic and metallic pollutants.

a. Description of sample stations, times, and procedures.

b. Description of sample containers, storage, and holding time prior to analysis.

c. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal surrogate standard.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Order No. 95-008.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer, pursuant to 40 CFR 122.62 and 124.4.

STEVEN R. RITCHIE
Executive Officer

Effective Date: 1/18/95

Attachment:

Table 1 - Schedule of Sampling, Measurement and Analysis

TABLE 1

SCHEDULE OF SAMPLING, MEASUREMENT, AND ANALYSIS

Station	Constituent	Unit	Type of Sample	Frequency of Analysis
E-001	Flow Rate	GPD	Grab	See Footnote 1
	pH [3]	Standard Units	Grab	See Footnote 1
	Total Suspended Solids (TSS)	mg/l	Grab	See Footnote 1
	Settleable Matter	ml/l-hr	Grab	See Footnote 1
	Temperature	°F	Grab	"
	Arsenic [4]	µg/l kg/day	Grab	"
	Cadmium	µg/l kg/day	Grab	"
	Chromium	µg/l kg/day	Grab	See Footnote 1
	Copper	"	"	"
	Cyanide [5]	"	"	"
	Lead	"	"	"
	Mercury	"	"	"
	Nickel	"	"	"
	Silver	"	"	"
	Zinc	µg/l kg/day	Grab	See Footnote 1
	Phenols	"	"	"
	PAHs [6]	"	"	"
	COD	mg/l	Grab	"
	Fish Toxicity	Survival	Grab	See Footnote 2
	Std. Observations			See Footnote 1
E-001A	Devrinol [7]	µg/l g/day	Grab	See Footnote 1
	Thiocarbamates [7]	µg/l g/day	Grab	See Footnote 1
	Toluene	"	"	"
	VAPAM [8]	"	"	"
E-002	Flow Rate	GPD	Grab	Daily
	Copper	µg/l	Grab	Twice/Month
	Lead	µg/l	Grab	Twice/Month

Station	Constituent	Unit	Type of Sample	Frequency of Analysis
E-002	Mercury	µg/l	Grab	Twice/Month
	Nickel	µg/l	Grab	Twice/Month
	Zinc	µg/l	Grab	Twice/Month
	Eptam	"	"	"
	Sutan	"	"	"
	Vernam	"	"	"
	Tillam	"	"	"
	Ordram	"	"	"
	Ro-Neet	"	"	"
	Devrinol [7]	µg/l	Grab	Twice/Month
	VAPAM [8]	"	"	"
	Std. Observations			5 Days/Week
C-R	pH	Standard Units	Grab	Annually
	D.O.	mg/l	"	"
	Temperature	°F	"	"
	Sulfides [9]	mg/l	"	"
	Un-ionized Ammonia (as N)	mg/l	"	"
	Salinity	ppt	"	"
All P Stations	Std. Observations			Twice/Week

Footnotes for Table 1:

1. To be sampled immediately after the onset of each discharge from station E-001, and on a weekly basis thereafter for the duration of the discharge.

2. Rainbow trout and fathead minnow (or three-spine stickleback) shall be tested pursuant to Effluent Limitation A.4.

3. Daily minimum and maximum shall be reported during discharge events.

4. Arsenic must be analyzed for by the atomic absorption, gaseous hydride procedure (USEPA Method No. 206.3/Standard Method No. 303E), graphite furnace (USEPA Method No. 7060A), or ICP (USEPA Method No. 6010A). Alternative methods of analysis must be approved by the Executive Officer.

5. The Discharger may, at their option, analyze for cyanide as Weak Acid Dissociable Cyanide using protocols specified in Standard Method No. 4500-CN-I, latest edition.

6. Polynuclear aromatic hydrocarbons PAHs shall be analyzed using USEPA Method No. 610 of the October 1984 Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, 40 CFR Part 136, or USEPA Method No. 8270A from SW-846. Alternative methods of analysis must be approved by the Executive Officer.

7. Analyses shall be done using Method 507 from EPA-600/4-88/039, "Methods for the Determination of Organic Compounds in Drinking Water", modified by using an extraction substituting toluene for methylene chloride as the extracting solvent, and analyzing the extracting solvent directly. Method No. WRC 89-45, developed by the Discharger, is acceptable for this analysis. Alternative methods of analysis must be approved by the Executive Officer.

8. Analyses shall be done using Method 505 from EPA-600/4-88/039, "Methods for the Determination of Organic Compounds in Drinking Water", modified by substituting carbon disulfide for xylene as the extracting solvent, and substituting a flame ionization detector for the electron capture detector. Method No. TMR 0432B, developed by the Discharger, is acceptable for this analysis. Alternative methods of analysis must be approved by the Executive Officer.

9. Receiving water analysis for sulfides should be run when dissolved oxygen is less than 5.0 mg/l.